

Docket No.: 436-003



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Caleb Eby
Serial No.: 10/608,662
Filed: June 30, 2003
For: TOP-LOADING CONTAINER AND COVER ASSEMBLY FOR
COLLECTING, STORING, HANDLING, AND TRANSPORTING
BULK MATERIALS

The Honorable Commissioner
of Patents and Trademarks
Washington, D.C. 20231

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By: 

INFORMATION DISCLOSURE STATEMENT

Sir:

The following documents are to be entered into the above-identified application in
fulfillment of the information disclosure requirement.

The following United States Patents are cited in Applicant's application.

<i>Patent No.</i>	<i>Patentee</i>	<i>Issue Date</i>
3,173,563	N. Finch	03-16-65
3,572,811	Keasten	03-03-71
3,886,719	Garrison et al	06-03-75
3,913,969	Hoch	10-21-75
4,015,520	Anderson	04-05-77
4,200,330	Scott	04-29-80
4,378,188	Hardwick	03-29-83

4,767,152	Stluka et al	08-30-88
4,907,402	Pakosh	03-13-90
5,058,956	Godwin, Sr.	10-22-91
5,078,560	Patrick et al	01-07-92
5,362,198	Patrick	11-08-94
5,498,066	Cuthbertson et al	03-12-96
5,542,734	Burchett et al	08-06-96
5,913,561	Alcorn	06-22-99
5,953,892	Albickner et al	09-21-99
6,097,425	Behnke et al	08-01-00
6,227,608	Hoyne	05-08-01
6,402,223	Ser et al	06-11-02

Background of the Invention

When open-top containers are used to transport bulk material along highways and railroad tracks, the material can be blown out of the car. Rain and contaminants can enter the car directly spoiling the contents if they are not waste products or, if they are waste products, adding to the liquid contained in the car which may present a leaking or odor problem. Sabotage, theft and spontaneous combustion (a special concern when transporting bulk combustibles such as coal which produces coal dust) are other problems that appear depending on the nature of the material transported. One common solution is simply to cover the open car with a tarpaulin, but tarpaulins are frequently lost or break free in transit. These conditions allow loss of the material being carried and, moreover, tarpaulins require personnel time to install and remove them. U.S. Patent 5,058,956 shows an improved hydraulically actuated tarp extension and retraction system for a truck

Many types of known top-loading containers having cover members hinged to the

upwardly facing top peripheral edge section of an open-top and are actuated by extendable mechanisms such as hydraulically driven piston means as shown in U.S. Patents 3,913,969; 4,200,300; 4,767,152; 5,498,066; and 6,227,608. Most involve the use of relatively complex linkage and/or hinge arrangements to effect the desired opening and closing of the open-top cover member. For example, U.S. Patent 5,542,734 discloses a top cover assembly for coal carrying vehicles wherein a cover member is removably, pivotally connected to the upper peripheral edge sections of opposed planar sidewalls, and includes hydraulic piston cylinders that enable the top cover member to be pivotally opened from either of two opposed upper edge sections. U.S. Patent 6,402,223 discloses a gear, chain, and drive shaft assembly for opening and closing a pair of roof doors over an open-top container, which may be placed on a special vehicle or a train for transporting bulk materials.

U.S. Patent 5,078,560 discloses a railway car transportation system in which top-loading containers having removably mounted top covers that are moved independently of the container that is removably mounted on a mobile flatbed railway car. Unlike the cover assembly of this invention, a forklift is used to individually remove each of the top cover members from each container, and each container from the flatbed car.

U.S. Patent 5,913,561 discloses a top cover that is hinged to a vertical support rack, operates independently from a roll-off container, and pivotally moves between open and closed top positions when a pair of telescoping support struts respectively move between extended and retracted positions. U.S. Patents 4,378,188 and 5,362,198 each discloses a top cover that is removed from a container by support arms pivotally mounted to a vertical support rack, and pivotally moves between open and closed top positions when a hydraulically driven piston respectively moves between extended and retracted positions.

In contrast, the top cover of the invention pivotally moves between open and closed top positions with respect to a container, but the invented cover actuating means respectively moves

oppositely between retracted and extended positions to open and close the top cover oppositely from the '561, '188, and '198 structures. In addition, unlike the top cover assembly of the invention, the '188 and '198 cover actuating mechanisms are part of a dumping assembly that empties the container while the top cover is held in an open position.

Blowing harvested crops into the front of a forage wagon is known. For example, U.S. Patent 3,173,563 discloses a forage handling vehicle having a top plate inclined rearwardly that prevents forage delivered by a harvester to the trailer through a front top opening from being blown over the top, back edge section of the trailer. U.S. Patent 3,572,811 discloses a forage wagon having a hinged roof that serves to limit loss of forage from the top of the wagon during travel and when the roof is in its elevated position, serves to enlarge the open portion to facilitate loading.

U.S. Patents 3,886,719 and 4,015,520 exemplify a particular type of stack-forming machine featuring a front end loading forage wagon having a bulk material pressing top cover mechanism that periodically presses down on accumulated crop to increase the load density to form a self-sustaining stack that is discharged from the rear of the wagon.

As shown in U.S. Patent 6,097,425, crop handling equipment used in harvesting grain and agricultural forage are well known and in widespread use. The harvesting operation from which the invention has been developed is shown in Figure 1 and specifically relates to the control of overloading (i.e., transferring) the harvested crop from the harvesting machine to the transporting vehicle while harvesting. Combine harvester 2 has a cutting mechanism 4 for mowing a field area 6 to be harvested, and then separates and cleans grain from the mowed harvested product. After intermediate storage in a grain tank of combine 2, discharge tube 8 discharges the grain to a transporting vehicle, which includes a field tractor 10 and a trailer 12. Care must be taken in this type of operation so as to avoid undesired loss of the harvested crop during the overloading

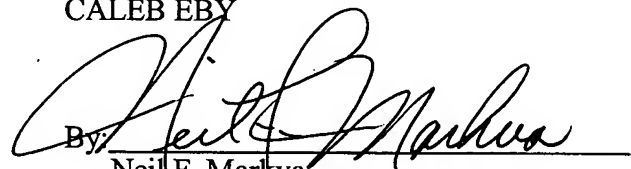
process. U.S. Patents 4,907,402 and 5,953,892 show typical machines for loading harvested crops into an agricultural wagon or trailer.

None of these foregoing known assemblies show the invented actuating mechanism with a double pivot arrangement for moving a cover member between an open and closed position over the open top of a receptacle, and the invented structural control mechanisms that limit bulk material load loss, give load and environmental protection, and control load density to solve multiple problems in collecting, storing, handling, and transporting bulk materials. For these reasons, the invented top-loading container assembly and its various structural configurations that increase the efficiency of collecting, handling, and transporting bulk materials as compared to known assemblies and methods particularly in the crop harvesting process that uses existing harvesting techniques and equipment.

The patents listed above are in Applicant's application and a full copy of each of the patents is attached.

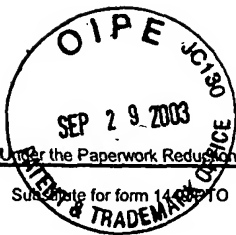
Respectfully submitted,

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PTO/SB/08A (08-03)

Approved for use through 07/31/2006. OMB 0651-0031

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**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 1 of 1

Complete if Known

Application Number	10/608,662
Filing Date	06-30-03
First Named Inventor	Eby, Caleb
Art Unit	3612
Examiner Name	not yet assigned
Attorney Docket Number	436-003

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
		US- 3,173,563 B1	03-16-1965	N. Finch	
		US- 3,572,811 B1	03-03-1971	Keaston	
		US- 3,886,719 B1	06-03-1975	Garrison, et al	
		US- 3,913,969 B1	10-21-1975	Hoch	
		US- 4,015,520 B1	04-05-1977	Anderson	
		US- 4,200,330 B1	04-29-1980	Scott	
		US- 4,378,188 B1	03-29-1983	Hardwick	
		US- 4,767,152 B1	08-30-1988	Stluka, et al	
		US- 4,907,402 B1	03-13-1990	Pakosh	
		US- 5,058,956 B1	10-22-1991	Godwin, Sr.	
		US- 5,078,560 B1	01-07-1992	Patrick, et al	
		US- 5,362,198 B1	11-08-1994	Patrick	
		US- 5,498,066 B1	03-12-1996	Outhbertson, et al	
		US- 5,542,734 B1	08-06-1996	Burchett, et al	
		US- 5,913,561 B1	06-22-1999	Alcorn	
		US- 5,953,892 B1	09-21-1999	Albickner, et al	
		US- 6,097,425 B1	08-01-2000	Behnke, et al	
		US- 6,227,608 B1	05-08-2001	Hyne	
		US- 6,402,223 B1	06-11-2002	Ser, et al	

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T ⁶
		Country Code ³ Number ⁴ Kind Code ⁵ (if known)				

Examiner Signature		Date Considered	
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